

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)								DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development						
COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	7925	9962	10252	12632	8393	8639	51434	67955	Continuing	Continuing
DL59 Diagnostic/Expert System Development	7925	6981	7333	9626	7408	7655	50353	66777	Continuing	Continuing
DL65 Test Equipment Development	0	2981	2919	3006	985	984	1081	1178	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program element provides for the development of diagnostic/prognostic hardware and software to support the increasingly complex electronics of Army weapon systems. The program focuses on commercial state-of-the-art test technologies which are common to multiple weapon platforms to minimize the cost of troubleshooting and maintenance in the field. Expert systems and artificial intelligence applications are also being developed under this program element as part of the Army Diagnostics Improvement Program (ADIP) initiative to support the overall Army strategy of improving the self-diagnostic capability of weapon systems through use of embedded sensors and built-in diagnostics. The goal of embedding diagnostics is to minimize the need for external testers and to improve the troubleshooting abilities of soldiers in the field. Emphasis is also being placed on development of paperless maintenance manuals and procedures and on battlefield electro-optical displays which will reduce the Army's investment in test program sets and in maintenance publications and procedures. This program element further provides for the development of modular, reconfigurable automatic and semi-automatic systems to satisfy calibration and repair requirements of Army general purpose test, measurement, and diagnostic equipment (TMDE). The calibration mission covers all equipment commodities, including the most sophisticated TMDE, and requires capabilities to support state-of-the-art technologies. A rapidly deployable calibration set with emphasis on digital electronics and tailored to support Army field units is being developed to alleviate serious deployability and survivability shortfalls in the current systems.

Page 1 of 9 Pages
Exhibit R-2 (PE 0604746A)

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)

DATE
February 1999

BUDGET ACTIVITY

5 - Engineering and Manufacturing Development

PE NUMBER AND TITLE

0604746A Automatic Test Equipment
Development

B. Program Change Summary	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Previous President's Budget (FY 1999 PB)	8220	7030	7424	6749
Appropriated Value	8582	10030		
Adjustments to Appropriated Value				
a. Congressional General Reductions	-362	-68		
b. SBIR / STTR	-194			
c. Omnibus or Other Above Threshold Reductions	-64			
d. Below Threshold Reprogramming	-37			
e. Rescissions				
Adjustments to Budget Years Since FY 1999 PB			+2828	+5883
Current Budget Submit (FY 2000/2001 PB)	7925	9962	10252	12632

Change Summary Explanation: FY 1999 - Congressional increase for development of Integrated Family of Test Equipment preplanned product improvements For Electro-Optic Test Facilities development (+3000).
FY 2000 - increase to support software development projects funded within current Army resources (+2828).
FY 2001 - increase to expand embedded diagnostics projects and to initiate preplanned product improvement program for new calibration set (CALSET2000) funded within current Army resources (+5883).

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development				PROJECT DL59		
COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
DL59 Diagnostic/Expert System Development	7925	6981	7333	9626	7408	7655	50353	66777	Continuing	Continuing
<p>A. <u>Mission Description and Budget Item Justification:</u> This project funds development of diagnostic and prognostic systems and general purpose test and diagnostic equipment. These systems and equipment are required to overcome existing deficiencies and voids in organic test and diagnostic capabilities and to ensure the operational readiness, accuracy, and effectiveness of the Army's weapons and combat support systems. The project provides for development of diagnostic/prognostic technologies and state-of-the-art general purpose automatic test equipment to support the Army's weapon systems; improvement of general purpose automatic test equipment to meet new testing and technological requirements; market surveys of commercially available test equipment, methods, and procedures to determine applicability to Army requirements; and development and validation of test and diagnostic software. Applications of state-of-the-art technologies in expert systems and artificial intelligence, paperless maintenance and troubleshooting manuals, electro-optical displays for battlefield use, and soldier-friendly equipment will be developed to meet identified requirements.</p> <p>FY 1998 Accomplishments:</p> <ul style="list-style-type: none"> • 2359 Upgraded digital capability of Integrated Family of Test Equipment off-system tester to VXI (open architecture). • 3605 Modified Navy standard electro-optics (EO) module for use in Army EO tester; completed integration and continued testing of the EO Test Facility. • 1072 Rehosted/developed Improved Target Acquisition System test program sets. • 889 Completed development of the Failure Analysis and Maintenance Planning System for hosting on the Soldier Portable On-System Repair Tool. <p>Total 7925</p> <p>FY 1999 Planned Program:</p> <ul style="list-style-type: none"> • 165 Complete testing of the EO Test Facility. • 510 Test and evaluate anticipatory maintenance system for ground vehicles. • 2323 Develop interface software needed by developers to utilize Integrated Family of Test Equipment test capabilities. • 1023 Evaluate commercial diagnostics for application to Army helicopter system maintenance requirements. • 2786 Initiate preplanned product improvement program to expand test and diagnostic capabilities of the EO Test Facility. • 174 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs <p>Total 6981</p>										
<div style="display: flex; justify-content: space-between;"> Project DL59 Page 3 of 9 Pages Exhibit R-2A (PE 0604746A) </div>										

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999																																																																			
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development			PROJECT DL59																																																																			
<p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 1390 Expand ground vehicle-based anticipatory maintenance system to brigade level. • 1519 Develop initial helicopter-based anticipatory maintenance system. • 1675 Develop horizontal technology insertion interface for the Bradley Fighting Vehicle System. • 1755 Develop test software applications for execution on Integrated Family of Test Equipment systems. • 994 Continue preplanned product improvement program for EO Test Facility. <p>Total 7333</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 2175 Test and evaluate helicopter-based anticipatory maintenance system. • 840 Test follow-on candidates for the Army's standard on-system tester. • 2337 Evaluate new hardware and software upgrades for the Integrated Family of Test Equipment. • 2524 Develop embedded diagnostic structure for ground vehicle systems. • 1750 Develop initial anticipatory logistics system. <p>Total 9626</p>																																																																											
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">B. <u>Other Program Funding Summary</u></th> <th style="text-align: center;"><u>FY 1998</u></th> <th style="text-align: center;"><u>FY 1999</u></th> <th style="text-align: center;"><u>FY 2000</u></th> <th style="text-align: center;"><u>FY 2001</u></th> <th style="text-align: center;"><u>FY 2002</u></th> <th style="text-align: center;"><u>FY 2003</u></th> <th style="text-align: center;"><u>FY 2004</u></th> <th style="text-align: center;"><u>FY 2005</u></th> <th style="text-align: center;"><u>To Compl</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>OPA3, MB2201, Electronic Repair Shelter</td> <td style="text-align: right;">5416</td> <td style="text-align: right;">3684</td> <td style="text-align: right;">10462</td> <td style="text-align: right;">12990</td> <td style="text-align: right;">11821</td> <td style="text-align: right;">10638</td> <td style="text-align: right;">6821</td> <td style="text-align: right;">5886</td> <td style="text-align: center;">0</td> <td style="text-align: right;">67718</td> </tr> <tr> <td>OPA3, MB4001, Base Shop Test Facility</td> <td style="text-align: right;">21561</td> <td style="text-align: right;">16509</td> <td style="text-align: right;">3518</td> <td style="text-align: right;">3916</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: right;">45504</td> </tr> <tr> <td>OPA3, MB4002, Contact Test Set (SPORT)</td> <td style="text-align: right;">11638</td> <td style="text-align: right;">23496</td> <td style="text-align: right;">25355</td> <td style="text-align: right;">37349</td> <td style="text-align: right;">34900</td> <td style="text-align: right;">38940</td> <td style="text-align: right;">17314</td> <td style="text-align: right;">17545</td> <td style="text-align: center;">Cont</td> <td style="text-align: center;">Cont</td> </tr> <tr> <td>OPA3, MB4003, Electro-Optic Equipment</td> <td style="text-align: center;">0</td> <td style="text-align: right;">26367</td> <td style="text-align: right;">12729</td> <td style="text-align: right;">14313</td> <td style="text-align: right;">9679</td> <td style="text-align: right;">10213</td> <td style="text-align: right;">9354</td> <td style="text-align: right;">9419</td> <td style="text-align: center;">Cont</td> <td style="text-align: center;">Cont</td> </tr> <tr> <td>OPA3, N11100, Army Diagnostics Improvement Program</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: right;">5194</td> <td style="text-align: right;">10572</td> <td style="text-align: right;">10354</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: right;">26120</td> </tr> </tbody> </table>										B. <u>Other Program Funding Summary</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>	OPA3, MB2201, Electronic Repair Shelter	5416	3684	10462	12990	11821	10638	6821	5886	0	67718	OPA3, MB4001, Base Shop Test Facility	21561	16509	3518	3916	0	0	0	0	0	45504	OPA3, MB4002, Contact Test Set (SPORT)	11638	23496	25355	37349	34900	38940	17314	17545	Cont	Cont	OPA3, MB4003, Electro-Optic Equipment	0	26367	12729	14313	9679	10213	9354	9419	Cont	Cont	OPA3, N11100, Army Diagnostics Improvement Program	0	0	5194	10572	10354	0	0	0	0	26120
B. <u>Other Program Funding Summary</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>																																																																	
OPA3, MB2201, Electronic Repair Shelter	5416	3684	10462	12990	11821	10638	6821	5886	0	67718																																																																	
OPA3, MB4001, Base Shop Test Facility	21561	16509	3518	3916	0	0	0	0	0	45504																																																																	
OPA3, MB4002, Contact Test Set (SPORT)	11638	23496	25355	37349	34900	38940	17314	17545	Cont	Cont																																																																	
OPA3, MB4003, Electro-Optic Equipment	0	26367	12729	14313	9679	10213	9354	9419	Cont	Cont																																																																	
OPA3, N11100, Army Diagnostics Improvement Program	0	0	5194	10572	10354	0	0	0	0	26120																																																																	
<p>C. <u>Acquisition Strategy:</u> This project funds development and upgrade of general purpose automatic test equipment and development of diagnostic software to support Army weapon systems. The projects are managed by the Product Manager, Automatic Test Support Systems and are focused on ensuring maximum use of commercial technologies and equipment to satisfy the Army's test and diagnostic requirements. When the necessary expertise and capability are available within the Department of Defense, services required for this project are ordered from the government source; otherwise, commercial contracts are used. Equipment required for developmental projects is obtained by contract from the commercial supplier. Candidate commercial equipment is identified and evaluated through market research and government testing and evaluation.</p>																																																																											
<div style="display: flex; justify-content: space-between;"> Project DL59 Page 4 of 9 Pages Exhibit R-2A (PE 0604746A) </div>																																																																											

UNCLASSIFIED

ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development					PROJECT DL59		

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Systems Engineering	SS/CPAF	Northrop Grumman, Rolling Meadows, IL	0	2263	Jan 99	1026	Jan 00	1296	Jan 01	Cont	4585	34679
b. Software Development	SS/CPAF	Northrop Grumman, Rolling Meadows, IL	0	2073	Jan 99	700	Jan 00	971	Jan 01	Cont	3744	34679
c. Systems Engineering	Various	Various	32401	141		1695		1585		Cont	35822	
d. Software Development	Various	Various	23100	566		1930		3287		Cont	28883	
e. Testing	Various	Various	4107	675		451		912		Cont	6145	
f. Government Engineering		Various	6355	613		631		650		Cont	8249	
Subtotal Product Development:			65963	6331		6433		8701			87428	

Remark: Test and evaluation costs are included as part of the product development costs.
 Target value of contract reflects the total contract value including RDTE, procurement, and customer funded orders for engineering and technical services.

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Contractor Technical Services	Various	Various	314	0		300		300		Cont	914	
b. Integrated Logistics Development	Various	Various	695	0		0		0		0	695	
Subtotal Support Costs:			1009			300		300			1609	

III. Test and Evaluation: See product development remark

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Program Management Personnel			4392	485		500		525		Cont	5902	

Project DL59

Page 5 of 9 Pages

Exhibit R-3 (PE 0604746A)

UNCLASSIFIED

ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development					PROJECT DL59		
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
b. Program Management Support			1992	165		100		100		Cont	2357	
Subtotal Management Services:			6384	650		600		625			8259	
<div style="display: flex; justify-content: space-between; border-top: 1px solid black; padding-top: 5px;"> Project Total Cost: 73356 6981 7333 9626 97296 </div>												

Project DL59
Page 6 of 9 Pages
Exhibit R-3 (PE 0604746A)

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development					PROJECT DL65	
COST <i>(In Thousands)</i>	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
DL65 Test Equipment Development	0	2981	2919	3006	985	984	1081	1178	Continuing	Continuing

A. Mission Description and Budget Item Justification: This project funds development of the Army's next generation calibration set (CALSET2000). A redesigned, rapidly deployable calibration set is required to overcome existing deficiencies and voids in organic calibration and repair capabilities. Experiences/lessons learned from Desert Shield/Desert Storm and from operations in Somalia and Bosnia highlighted the need for a more mobile and upgraded calibration set. Primary needs are for an appropriate mobility footprint that will allow airlift via C-141 or C-130 aircraft, greatly reduced electromagnetic interference/radio frequency interference signature for operations on the modern digital battlefield, and enhanced battlefield mobility. The downsized calibration set being developed under this project will employ reconfigurable, open electronics architecture and computer-based calibration instrumentation wherever feasible and will be housed in transport configurations to allow airlift via C-141/C-130 aircraft. This project also funds identification and evaluation of commercial and nondevelopmental test, measurement, and diagnostic equipment (TMDE) with potential to meet weapon system maintenance requirements and to cost effectively migrate new, higher reliability, open architecture electronics test equipment into the Army's inventory. Studies, market research, inventory analyses, bid sample testing, prototyping, and other efforts required in the early phases of the acquisition cycle will be accomplished under this project to support TMDE and calibration standards acquisitions.

FY 1998 Accomplishments: Project not funded in FY 1998.

FY 1999 Planned Program:

- 1868 Initiate development of two prototypes combining the current AN/GSM-286 and AN/GSM-287 Calibration Sets into a downsized configuration.
- 745 Acquire smaller, lighter, high-precision calibration standards for technology insertion into the downsized equipment configuration.
- 290 Initiate development of software to link calibration set computers for interactive electronic technical manual, training, controls, and other applications.
- 78 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs
- Total 2981

FY 2000 Planned Program:

- 1739 Continue development of CALSET2000 downsized calibration set configuration.
- 250 Perform field testing and user assessment of CALSET2000.
- 250 Continue development of software/database linkages.
- 680 Design and develop software to automate transponder/interrogator sets using the Identification Friend or Foe Radar Test Set.

Project DL65
Page 7 of 9 Pages
Exhibit R-2A (PE 0604746A)

		DATE	February 1999
BUDGET ACTIVITY		PE NUMBER AND TITLE	
5 - Engineering and Manufacturing Development		0604746A Automatic Test Equipment Development	
Total	2919		

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999																																																								
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development				PROJECT DL65																																																								
FY 2001 Planned Program: <ul style="list-style-type: none"> • 550 Complete development and testing of CALSET2000 downsized calibration set. • 1456 Implement preplanned product improvement program for CALSET2000. • 300 Prototype and perform software integration of VXI test equipment system. • 400 Perform market research and evaluation of commercial equipment and develop performance specifications for acquisitions. • 300 Perform analyses to identify impending and future shortages of critical Army test equipment capabilities. <p>Total 3006</p>																																																																
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">B. Other Program Funding Summary</th> <th><u>FY 1998</u></th> <th><u>FY 1999</u></th> <th><u>FY 2000</u></th> <th><u>FY 2001</u></th> <th><u>FY 2002</u></th> <th><u>FY 2003</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th style="text-align: center;"><u>To Compl</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> <tr> <td>OPA3, N10000, Calibration Sets Equipment</td> <td style="text-align: center;">6129</td> <td style="text-align: center;">9957</td> <td style="text-align: center;">11407</td> <td style="text-align: center;">18464</td> <td style="text-align: center;">15553</td> <td style="text-align: center;">16292</td> <td style="text-align: center;">17394</td> <td style="text-align: center;">18492</td> <td style="text-align: center;">Cont</td> <td style="text-align: center;">Cont</td> </tr> <tr> <td>OPA3, N11000, Test Equipment Modernization</td> <td style="text-align: center;">6230</td> <td style="text-align: center;">13760</td> <td style="text-align: center;">14257</td> <td style="text-align: center;">18365</td> <td style="text-align: center;">15282</td> <td style="text-align: center;">16836</td> <td style="text-align: center;">17394</td> <td style="text-align: center;">18493</td> <td style="text-align: center;">Cont</td> <td style="text-align: center;">Cont</td> </tr> </table>										B. Other Program Funding Summary	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>	OPA3, N10000, Calibration Sets Equipment	6129	9957	11407	18464	15553	16292	17394	18492	Cont	Cont	OPA3, N11000, Test Equipment Modernization	6230	13760	14257	18365	15282	16836	17394	18493	Cont	Cont																						
B. Other Program Funding Summary	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>																																																						
OPA3, N10000, Calibration Sets Equipment	6129	9957	11407	18464	15553	16292	17394	18492	Cont	Cont																																																						
OPA3, N11000, Test Equipment Modernization	6230	13760	14257	18365	15282	16836	17394	18493	Cont	Cont																																																						
<p>C. Acquisition Strategy: This project funds development and upgrade of general purpose test equipment and calibration standards and the associated support equipment and software. The projects are managed by the Product Manager, Test Equipment Modernization/Calibration Sets Equipment and provide state-of-the-art capabilities to satisfy test and diagnostic requirements of Army weapon systems. Projects are focused on use of commercial and nondevelopmental item technologies to reduce the Army's investments in test and calibration equipment and to reduce the logistics and operations and support cost burdens. When the necessary expertise and capability are available within the Department of Defense, services required for this project are ordered from the government source; otherwise, commercial contracts are used. Equipment required for developmental projects is obtained by contract from the commercial supplier. Candidate commercial equipment and nondevelopmental items are identified and evaluated through market research and government testing and evaluation.</p>																																																																
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">D. Schedule Profile</th> <th><u>FY 1997</u></th> <th><u>FY 1998</u></th> <th><u>FY 1999</u></th> <th><u>FY 2000</u></th> <th><u>FY 2001</u></th> <th><u>FY 2002</u></th> <th><u>FY 2003</u></th> <th><u>FY 2004</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> </tr> <tr> <td>CALSET2000 ORD Approval, Milestone I/II</td> <td></td> <td></td> <td style="text-align: center;">2Q</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CALSET2000 User Assessment</td> <td></td> <td></td> <td></td> <td style="text-align: center;">4Q</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CALSET2000 Milestone III</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">1Q</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CALSET2000 Initial Operational Capability</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">4Q</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										D. Schedule Profile	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2004</u>	<u>FY 2005</u>	CALSET2000 ORD Approval, Milestone I/II			2Q								CALSET2000 User Assessment				4Q							CALSET2000 Milestone III					1Q						CALSET2000 Initial Operational Capability						4Q				
D. Schedule Profile	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2004</u>	<u>FY 2005</u>																																																						
CALSET2000 ORD Approval, Milestone I/II			2Q																																																													
CALSET2000 User Assessment				4Q																																																												
CALSET2000 Milestone III					1Q																																																											
CALSET2000 Initial Operational Capability						4Q																																																										
<div style="display: flex; justify-content: space-between;"> Project DL65 Page 8 of 9 Pages Exhibit R-2A (PE 0604746A) </div>																																																																

UNCLASSIFIED

ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development					PROJECT DL65		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Systems Engineering	Various	Various	0	1996		1531		2170		Cont	5697	
b. Software Development/ Engineering	Various	Various	0	290		810		150		Cont	1250	
c. Testing	Various	Various	0	200		250		250		Cont	700	
d. Government Engineering		Various	0	270		278		286		Cont	834	
Subtotal Product Development:				2756		2869		2856			8481	
Remark: Test and evaluation costs are included as part of the product development costs.												
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Technical Support Services	Various	Various	0	225		50		150		Cont	425	
Subtotal Support Costs:				225		50		150			425	
III. Test and Evaluation: See product development remark.												
IV. Management Services: Not applicable												
Project Total Cost:				2981		2919		3006			8906	
<div style="display: flex; justify-content: space-between;"> Project DL65 Page 9 of 9 Pages Exhibit R-3 (PE 0604746A) </div>												

THIS PAGE INTENTIONALLY LEFT BLANK